Final Report

Interagency Memorandum of Understanding
Among the NEXRAD Program,
The WSR-88D Radar Operations Center,
and
The NWS Office of Hydrologic Development

June 1, 2000 to May 31, 2001

by

Richard Fulton
Dennis Miller
Jay Breidenbach
Dong-Jun Seo

Hydrology Laboratory
Office of Hydrologic Development
National Weather Service

July 19, 2001

Table of Contents

- 1. Handling Anomalous Residuals in Implemented Solutions to Precipitation Truncation Problem in WSR-88D PPS Algorithm
 - 1.1 Background
 - 1.2 Proposed Solutions to Truncation Problem
 - 1.3 Residuals Problem
 - 1.3.1 Problem Revealed
 - 1.3.2 Problem Explained
 - 1.3.3 Solutions Considered for ORPG Build 1
 - 1.3.4 Solutions Considered for ORPG Build 2
 - 1.4 Conclusions and Future Considerations

References

- 2. Evaluation of Sterling, Virginia WSR-88D (KLWX) Rainfall Estimates Post-Calibration Final Wrap-up
 - 2.1 Introduction
 - 2.2 Individual Event Results
 - 2.3 Conclusions

References

- 3. Radar Climatology Analysis and Display
 - 3.1 Introduction
 - 3.2 Climatological Analysis
 - 3.3 Climatological Analysis for Blacksburg, VA (KFCX)
 - 3.4 Climatological Analysis for Jackson, MS (KJAN)
 - 3.5 Climatological Analysis for Tallahassee, FL (KTLH)

Appendix

4. Real-Time Correction of Spatially Nonuniform Bias in Radar Rainfall Data Using Rain Gauge Measurements

Abstract

- 4.1 Introduction
- 4.2 Problem Description
- 4.3 Estimation Approach
- 4.4 Estimation Procedure
- 4.5 Data
- 4.6 Parameter Estimation
- 4.7 Validation
- 4.8 Results

- 4.9 Conclusions and Future Research Recommendations
- Appendix A Appendix B

- Appendix C Appendix D
- Appendix E References
- 5. Princeton University report
- 6. University of Iowa report